

January 8, 2018

Sent via email to: objections-intermtn-regional-office@fs.fed.us

Subject: Upper Green River Area Rangeland Project

To: Objection Reviewing Officer Patricia O'Connor (Bridger-Teton Forest Supervisor)
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Pursuant to 36 CFR Part 218, Yellowstone to Uintas Connection (Y2U) and Alliance for Wild Rockies (AWR) file this Objection to the Final Environmental Impact Statement (FEIS) and Draft Record of Decision (Draft ROD) for the Upper Green River Area Rangeland Project. The Upper Green River Area Rangeland Project is proposed for the Pinedale Ranger District, Bridger-Teton National Forest (BTNF) and the Responsible Official is Pinedale District Ranger Rob Hoelscher.

Yellowstone to Uintas Connection is a 501c3 non-profit entity working to restore fish and wildlife habitat including the Regionally Significant Wildlife Corridor connecting the Greater Yellowstone Ecosystem to the Uintas Mountains and Southern Rockies through the application of science, education and advocacy. Alliance for the Wild Rockies is also a 501c3 non-profit organization, dedicated to preserving and restoring wildlife habitat in Northern Rockies Bioregion.

Objectors are directly affected by this project and past and ongoing actions or inaction by the Forest Service (FS), as well as the consequences of other connected and cumulative actions authorized on National Forest land.

The Draft ROD's selected alternative is "a modification of Alternative 3 that includes some elements of Alternative 2, as these two alternatives are described in the Final Environmental Impact Statement." (ROD at 5.) The selected alternative continues the grazing of livestock on the Badger Creek, Beaver-Twin, Noble Pastures, Roaring Fork, Wagon Creek, and Upper Green River allotments.

Y2U and AWR submitted a November 15, 2016 letter commenting on the Upper Green River Area Rangeland Project Draft EIS. Instead of publishing individual public comments, the FEIS "group(ed) similar comments together and then summarize them in a concern statement." (FEIS at 606.) This paraphrasing made it difficult to locate responses to many of our comments. Also, this resulted in the FS often missing important points expressed in our comments and providing no appropriate response whatsoever. In sum, the Forest Service (FS) was unresponsive to most of the issues raised in our comments. Therefore, this Objection incorporates by reference our 11/15/2016 comment letter (Attachment 1) in its entirety within this Objection.

Below we offer reasons why we believe the Upper Green River Area Rangeland Project is not in compliance with laws such as the National Environmental Policy Act (NEPA) and the National

Forest Management Act (NFMA), regulations, and policy. We also identify where these issues were raised in our 11/15/2016 comment letter, and identify appropriate remedies.

I. GRIZZLY BEAR

Y2U and AWR raised this issue at pp. 1-2, 11 of our comments, where we identified direct, indirect, and cumulative effects on grizzly bears in the project area:

- Livestock grazing reduces a basic grizzly bear food source—herbaceous vegetation.
- Conflicts with cattle grazing in the project area has led to unusually high grizzly bear mortality or relocation.
- Cattle carcasses invite conflicts, and livestock grazing practices do not effectively mitigate these conflicts.
- Roads facilitate human access, which results in habitat disturbance and avoidance, and increases hunter-caused mortalities.
- Grazing management does not avoid preferred foraging or security areas for grizzly bears.
- Measures to reduce livestock/grizzly bear conflicts are too discretionary and ineffective as evidenced by high grizzly mortalities.
- Habitat fragmentation and other cumulative effects on the Regionally Significant Wildlife Corridor are not being properly addressed.

The history of grizzly bears in the allotment areas is a story of frequent conflicts with livestock grazing and other human activities, resulting in grizzly relocations and frequent grizzly mortalities. In fact, while the species was listed under the Endangered Species Act (ESA), mortalities of grizzly bears often resulted in “take” under the ESA which exceeded levels allowed in Biological Opinions written by the U.S. Fish and Wildlife Service (USFWS) in the context of consultation between USFWS and the FS concerning livestock operations on project area and nearby allotments.

Past and likely mortalities in the project area and vicinity indicate that livestock grazing in these areas creates a population sink, which negatively affects population recovery notwithstanding government conclusions to the contrary. Because of management of these allotments, grizzly bears are unable to occupy portions of their historic range. The grizzly bear is a Management Indicator Species (MIS) under the Forest Plan. Because allotment management and other cumulative actions are preventing well-distributed populations of grizzly bears, the FS is not managing consistent with the Forest Plan requirement to “ensure viable populations of management indicator species” and is in violation of NFMA.

The Forest Plan states:

Excessive human-caused mortality of grizzly bears and reduction in suitability or availability of grizzly habitat are the major factors which can limit grizzly bear recovery. In order to facilitate grizzly bear recovery, all National Forests have a target of zero

preventable grizzly bear mortalities. A preventable mortality is one which could have reasonably been avoided by management actions under jurisdiction.

The FEIS's grazing alternatives fail to adequately address this target of zero preventable grizzly bear mortalities, in violation of NFMA and NEPA.

The FEIS states, "The grizzly bear management objective was to minimize livestock-related grizzly bear mortality. The threshold of concern for the determination was whether or not grizzly bear delisting in the Yellowstone Ecosystem was achievable despite the livestock-related grizzly bear mortality in the project area. Thus, the threshold of concern was linked to the Forest Plan goal of achieving grizzly bear recovery (U.S. Forest Service 1990)."

The FEIS does not consider that the USFWS removed the Greater Yellowstone Ecosystem (GYE) grizzly bear subpopulation from the Endangered Species list in June of 2017. This is a violation of NEPA. As long as they were listed, grizzly bears had some protections under the ESA whether or not they were in a designated recovery area. The project area was not within the GYE recovery area and was outside a 10-mile buffer zone surrounding the recovery area. This low prioritization of the allotment areas has no doubt been part of the reason for excessive take, because of unacceptably lax management of grizzly bear habitat by the agencies in the livestock allotments.

The FEIS relies upon a 2014 USFWS Biological Opinion (BO) in concluding livestock grazing on these allotments would not significantly reverse or retard recovery of the GYE grizzly bear. The FEIS does not consider that the Terms and Conditions and other conservation measures in the BO are no longer enforceable since delisting in June 2017.

In addition, a court [ruling](#) regarding the removal of a wolf population from Endangered Species Act protection has spurred reconsideration of the June 2017 decision for the GYE grizzlies. In December of 2017 the USFWS published a [notice](#) of regulatory review in the Federal Register, opening a public comment period based on that wolf ruling and because of the delisting of the arbitrarily designated grizzly bear GYE subpopulation. Although the USFWS claims that the GYE "final delisting rule remains in effect and the status of grizzly bears throughout the rest of the range remains unchanged" during this process, it's clear even they doubt that the delisting—based upon a likely illegal designation of a distinct GYE population—will pass legal muster under multiple existing legal challenges.

Even if the GYE grizzly bear 2017 delisting is taken back and the GYE population again receives full ESA protections and the 2014 BO remains fully enforceable, that BO would only remain in effect through next year (2019), after which time protections for grizzly bears would be up in the air.

The Draft ROD states:

Within the Greater Yellowstone Ecosystem, interagency federal land managers have signed a Conservation Strategy for management of grizzly bears. Within this strategy, the grizzly bear population and its habitat is managed utilizing an approach that identifies a Primary

Conservation Area (PCA) and adjacent areas described as the Demographic Monitoring Area (DMA). The PCA is intended to be a secure area for grizzly bears, with population and habitat conditions maintained to ensure a recovered population is maintained for the foreseeable future and to allow bears to continue to expand outside the PCA. In the DMA and other lands outside of the PCA, the key to successful management of grizzly bears lies in bears utilizing lands that are not managed solely for bears but in which their needs are considered along with other uses. Outside of the PCA, the objective is to maintain existing resource management and recreational uses and to allow agencies to respond to demonstrated grizzly bear problems with appropriate management actions. ...This project area is outside of the PCA and within the DMA.

This indicates that government agencies still treat grizzly bears in the project area essentially as intruders who don't belong here even though this is well within historic grizzly bear range. The FEIS fails to analyze and disclose the level of lethality likely to be seen under this Conservation Strategy. There is also no evaluation of the adequacy of this Conservation Strategy, based upon past failures of similar conservation measures. These are NEPA violations.

The FEIS fails to analyze and disclose how Interagency Grizzly Bear Management Guidelines will be followed in the project area and cumulative effects area, in compliance with the Forest Plan Grizzly Bear Habitat Management Standard. And analysis in the context of the Grizzly Bear Management Situation does not occur in the FEIS, in violation of NEPA and NFMA

The FEIS does not analyze or disclose management consistency with the 2006 amendment to the Forest Plan concerning grizzly bears in the GYE, in violation of NEPA.

The FEIS fails to demonstrate the FS is managing consistent with Forest Plan monitoring direction for MIS, grizzly bears, and range condition, in violation of NFMA. Cumulative effects under cannot be adequately analyzed, in violation of NEPA.

Without ESA protections, the future management of grizzly bear habitat in the project area vicinity can only result in even more bear mortalities than the current excessive levels.

Finally, additional existing Forest Service policy specific to grizzly bears is found in the Forest Service Manual: FSM 2600 - Wildlife, Fish, and Sensitive Plant Habitat Management, Chapter 2670 - Threatened, Endangered and Sensitive Plants and Animals. The FEIS fails to explain how allotment management under the Draft ROD's selected alternative would be consistent with this FSM policy.

Remedy: Prohibit livestock grazing in these allotments until the ESA listing legal issues and management uncertainties and inadequacies are adequately and appropriately addressed. Prohibit hunting and trapping activity using FS authority under 36 CFR 251 to ban and reduce mortality to grizzly bears. Prepare a Supplemental EIS to address the other legal and analytical deficiencies identified above.

II. GRAZING MANAGEMENT AND OVERUTILIZATION

Y2U and AWR raised this issue at pp. 1, 9-11 of our comments. In sum, the FEIS:

- Fails to present a reliable, rational, and valid analysis of forage availability in the allotments
- Fails to cite results of valid and accurate monitoring of forage utilization in the allotments in order to inform the purpose of the project which is to “to authorize livestock grazing in a manner that will maintain or improve resource conditions”
- Fails to adequately analyze riparian utilization
- Fails to consider best available science on grazing management, monitoring, and utilization
- Relies on an erroneous allowance for forage consumption by cattle
- Allocates inadequate forage for big game and other native species
- Fails to consider grazing alternatives which would rest allotments or reduce livestock stocking rates in recognition of overgrazing
- Provides no analysis of the key areas or species used for monitoring
- Fails to adequately consider variability in annual weather and climate change

In essence, the FS has been, and under the selected alternative would continue to, manage the allotment areas to the detriment of wildlife, water, fish, soils and other natural resource values because of overgrazing. The above failures are a violation of the “hard look” requirement of NEPA.

The Forest Plan contains Priority 1¹ Monitoring direction: “Benchmark studies will be established to determine the trend in range condition and the objectives of the AMP are being met. There will be one benchmark area for each grazing unit of each allotment.” Also: “Implementation monitoring of rangeland proper-use criteria - Priority 2”; “Implementation monitoring of livestock distribution and grazing practices - Priority 2”; and “Validation monitoring of range condition - Priority 2.” The FEIS fails to disclose how the FS has or is responding to these requirements and other monitoring direction in the Forest Plan, in violation of NFMA. This means FEIS cumulative effects analyses are inadequate, in violation of NEPA.

The FEIS fails to demonstrate consistency with applicable Forest Plan direction concerning livestock grazing as well as the monitoring requirements on the impacts of livestock grazing, in violation of NEPA and NFMA.

Remedy: Prepare a Supplemental EIS to address the legal and analytical deficiencies identified above, and prohibit livestock grazing in these allotments in the meantime.

¹ “Priority 1 monitoring is required.”

III. NATIVE FISH

Y2U and AWR raised this issue in our comment letter at pp. 1, 4, 6-8:

- Stream standards are weak, allowing excessive bank alteration.
- The FEIS contains no comparisons to potential habitat conditions
- The FEIS includes no proposal to update livestock management to restore degraded conditions to potential
- Water Quality and sediment content of spawning habitats was not addressed
- The FEIS includes no analysis of E. coli presence and the threat to human health from that bacterium and from giardia.
- Stream temperatures exceed the aquatic life standard at times with inadequate management actions to address the problem
- The FEIS fails to consider best available scientific information on water quality and native fish habitat.

Cutthroat trout are identified as an MIS for riparian habitat in the Forest Plan. The Forest Plan also states:

For fish habitat providing a fishery at or near its potential, fish populations should be maintained at existing levels. For habitat below its potential, habitat should be improved and maintained to at least 90 percent of its natural potential. First priority for improvement should be streams supporting Colorado River and Bonneville cutthroat trout² which are Sensitive species.

The Forest Plan states:

At least 90 percent of the natural bank stability of streams that support a fishery, particularly Threatened, Endangered and Sensitive species, and all trout species, should be maintained. Stream bank vegetation should be maintained to 80 percent of its potential natural condition or an HCI rating of 85 or greater. Stream bank stability vegetation and fish numbers and biomass should be managed by stream type.

The FEIS fails to demonstrate consistency with above and other applicable Forest Plan direction concerning water quality and fisheries as well as the monitoring requirements on the impacts of forest plan implementation on water and fish, in violation of NEPA and NFMA. Viable populations of native fish species are not being assured.

Remedy: Prepare a Supplemental EIS to address the legal and analytical deficiencies identified above, and prohibit livestock grazing in these allotments in the meantime.

² The FEIS indicates both cutthroat trout species occur in the project area.

IV. SAGE GROUSE

Y2U and AWR raised the sage grouse issue at pp. 1, 4, and 9 of our comment letter. We stated:

The Upper Green River project area contains sage grouse habitat including a lek in the center of the project area and others nearby. No data for trend over time in lek attendance was provided. Standards are inadequate for sage grouse, in particular the riparian 4" residual vegetation height which may only apply to the greenline, not the entire aquatic influence zone, and the 4" residual upland vegetation height. Riparian areas are where late brood rearing occurs, yet cattle prefer these areas and will eat them down to the ground, so sage grouse lose their forbs and cover, which should be left at 7" as for nesting habitat. Cover is cover, regardless of where the birds are located. Unfortunately, scientists and agencies have avoided dealing with riparian areas with any adequate standards, likely because they know how cattle behave, eating out the riparian and meadow areas before moving into uplands.

Sage grouse habitat in the project area fragmented by roads, fences, power lines, farming (removal of native vegetation), livestock grazing, noise and activity from traffic and human access, off road vehicles, construction of residences, commercial and industrial facilities.

The following are issues from the Sage-grouse National Technical Team (2011) report (NTT Report):

1. The need to enhance or restore sagebrush habitats upon which sage grouse depend
2. Causes of sage grouse decline include human land use, tillage agriculture, grazing management, energy and minerals development, roads, power lines and recreation
3. Adequacy of management is measured by science-based effectiveness monitoring of the biological response of sagebrush landscapes and sage grouse populations
4. Off-site mitigation (management and restoration) is needed to address impacts to habitats and connectivity

Based on these issues, recommendations consistent with the NTT Report to address current and potential problems for sage grouse habitat, leks, nesting areas and brood rearing areas in the project area (the combined 3.8 mile zones around each lek) are as follows:

1. Analysis of habitat condition within the project area to identify problem areas and potential for improvement (restoration, change in management).
2. Monitoring sage grouse populations using lek counts and habitat structure based on proximity to leks (3.8 mile radius). This would apply to the known and potential leks as well as others that might occur within the affected radius.
3. Mitigate habitat fragmentation by closing and restoring illegal trails on public lands; on private lands, provide information to landowners about seasonal use impacts for nesting and brood rearing areas with recommendations for avoidance (locations, seasons)
4. Mitigate livestock impacts to seasonal habitats on private and public lands, particularly during nesting and brood rearing (spring and summer) to provide 7" vegetation cover by grasses and forbs and eliminate trampling and disturbance of nests. The FS has authority to manage for these characteristics on national forest lands in the project area.

Habitat restoration and monitoring are stressed to create or maintain a landscape that benefits sage grouse:

- Prioritize restoration in seasonal habitats limiting sage grouse distribution and abundance
- Include habitat parameters (cover and height of sagebrush, grasses and forbs) recommended by Connelly et al. (2000) and compare to ecological potential using NRCS Ecological Site Descriptions
- Use native seeds and restore to ecological potential as the highest priority for restoration efforts
- Design management of livestock grazing and travel management to achieve or maintain conditions to benefit sage grouse
- Conduct population monitoring (lek counts) led by State wildlife agencies even though these have been challenged as inconsistently conducted and biased. However, lek counts appear the best available information on populations over time. Use standardized methodology.
- At landscape level, track percent of sagebrush cover and maturity of stands
- Collect quantitative habitat data (nesting, brood rearing, winter)
- Coordinate with State and Federal monitoring protocols.

Attachment 2 is our March 23, 2014 letter regarding Sage Grouse Habitat Mitigation and Monitoring in Relation to Paris Hills Agricom Operations. The letter includes more detailed recommendations for baseline analysis, monitoring, mitigation, and Restoration, which we incorporate into this Objection.

Forest Plan direction for sage grouse includes:

Range improvements, management activities, and trailing will be coordinated with and designed to help meet fish and wildlife habitat needs, especially on key habitat areas such ...riparian areas, sagegrouse leks, and nesting sites. Special emphasis will be placed on helping to meet the needs of ...Sensitive species.

The greater sage grouse is a Forest Plan Sensitive species. The FEIS summarizes significant declines in sage grouse populations over its entire range. In 2010 the species was declared warranted for listing under the ESA, but in 2015, the U.S. Fish and Wildlife Service reversed course to list the Greater Sage-grouse to a “not warranted” finding. The FEIS states:

In September 2015, the Forest Service signed the record of decision implementing the Greater Sage-grouse Wyoming Management Plan (U.S. Forest Service 2015). The goal of incorporating these specific conservation measures into Forest Service land management plans is to protect, enhance, and restore Greater Sage-grouse and its habitat and to provide sufficient regulatory certainty such that the need for listing the species under the *Endangered Species Act* could be avoided.

The Greater Sage-grouse Wyoming Plan Amendment (U.S. Forest Service 2015 Attachment B) provides the Forest Service direction for Greater Sage-grouse management on the Bridger-Teton National Forest. This amendment provides conservation measures to

protect, restore, and enhance Greater Sage-grouse and its habitat by reducing, eliminating, or minimizing threats to Greater Sage-grouse and its habitat.

The FEIS states, “AOIs are being updated to comply with the Greater Sage-grouse Wyoming Plan Amendment including the grazing guidelines (USFS 2015).” However, the FEIS fails to disclose that in 2017 the Forest Service and Department of Interior decided to weaken the land management plan amendment protections³, which they adopted as necessary condition to avoid listing the sage grouse. The FEIS failed to analyze and disclose the implications of this proposed weakening of BTNF Forest Plan direction for management of sage grouse habitat in the project area.

The FEIS fails to disclose sage grouse population and habitat trends for the project area, in violation of NEPA and NFMA.

The FEIS fails to consider best available scientific information on sage grouse habitat, in violation of NEPA.

The FEIS fails to demonstrate consistency with above and other applicable Forest Plan direction relating to sage grouse as well as the monitoring requirements on the impacts of forest plan implementation on sage grouse and its habitats, in violation of NEPA and NFMA. Viable populations of sage grouse are not being assured.

Remedy: Prepare a Supplemental EIS to address the legal and analytical deficiencies identified above, consistent with the Sage-grouse National Technical Team (2011) report. Prohibit livestock grazing in these allotments in the meantime.

V. CLIMATE CHANGE

Y2U and AWR raised climate change issues at pp. 4-5, 9 of our comments. We began by requesting the FS take a “hard look” at how allotment management activities would be in accord with the agency’s 2010 National Roadmap for Responding to Climate Change. Our comment focused specifically on Roadmap guidance to:

- a. Assess vulnerability of species and ecosystems to climate change
- b. Restore resilience
- c. Promote carbon sequestration
- d. Connect habitats, restore important corridors for fish and wildlife, decrease fragmentation and remove impediments to species migration.

The FS entirely ignored this request. We also referred the FS to the National Fish, Wildlife and Plants Climate Adaptation Strategy (<https://www.wildlifeadaptationstrategy.gov/>) which describes climate change effects and emphasizes conservation of habitats and reduction of non-

³ See Attachments 3 and 4 for additional context.

climate stressors to help fish and wildlife adapt. The FS ignored this request also. The FEIS fails to properly address these issues, in violation of NEPA.

The FEIS failed to analyze and disclose emissions of greenhouse gases from livestock grazing in the allotments. It dismisses the issue entirely, stating: “The small scale of most Agency livestock grazing projects would likely limit feasibility to disclose a difference in effects to greenhouse gas emissions or the carbon cycle.” (FEIS at 640.) The FS obviously does not want to be accountable for National Forest System-wide management’s exacerbation of climate change, which the 2010 National Roadmap for Responding to Climate Change directs it to be.

Pecl, et al. 2017 “review the consequences of climate-driven species redistribution for economic development and the provision of ecosystem services, including livelihoods, food security, and culture, as well as for feedbacks on the climate itself.” They state, “Despite mounting evidence for the pervasive and substantial impacts of a climate-driven redistribution of Earth’s species, current global goals, policies, and international agreements fail to account for these effects. ... To date, all key international discussions and agreements regarding climate change have focused on the direct socioeconomic implications of emissions reduction and on funding mechanisms; **shifting natural ecosystems have not yet been considered in detail.**” (Emphasis added.)

Global climate change is a significant threat to humanity and functioning ecosystems. Climate change is caused by excess CO₂ and other greenhouse gases transferred to the atmosphere from other pools. All lands, including those in this project area, are an important part of the global carbon cycle. Since the time the BTNF Forest Plan was written, there is significant new information reinforcing the need to conserve all existing stores of carbon in forests to keep carbon in forests and out of the atmosphere, in order to mitigate climate change. Since all forests are an important part of the global carbon cycle, the agency must do its part by managing forests to maintain and increase carbon storage. Global warming is caused by the *cumulative* buildup of greenhouse gases, including CO₂, in the atmosphere. Allotment management will add to the cumulative total carbon emissions so it is clearly part of the problem and must be minimized.

Global warming and its consequences may be effectively irreversible, which implicates certain legal consequences under NEPA and NFMA and ESA (e.g., 40 CFR § 1502.16; 16 USC §1604(g); 36 CFR §219.12; ESA Section 7; 50 CFR §§402.9, 402.14). The FS should recognize that all net carbon emissions from logging represent “irretrievable and irreversible commitments of resources.”

Clearly, the management of the planet’s forests is a nexus for addressing the largest crisis ever facing humanity. Yet the FEIS fails to even provide a minimal quantitative analysis of project- or agency-caused CO₂ emissions or consider the best available science on the topic. This is immensely unethical and immoral. The lack of detailed scientific discussion in the FEIS concerning climate change is far more troubling than the document’s failures on other topics, because the consequences of unchecked climate change will be disastrous for food production, sea level rise, and water supplies, resulting in complete turmoil for all human societies. This is an issue as serious as nuclear annihilation (although at least with the latter we’re not already pressing the button).

Respected experts say that the atmosphere might be able to safely hold 350 ppm of CO₂.⁴ So when we were at pre-industrial levels of about 280 ppm, we had a cushion of about 70 ppm which represents millions of tons of GHG emissions. Well, now that cushion is completely gone. We are already over 400 ppm CO₂ and rising, so what's the safe level of additional emissions (from logging or any other activity)? It's negative. There is no safe level of additional emissions that our earth systems can tolerate. In fact, we need to be removing carbon, not adding carbon to the atmosphere.⁵

Like all forests, the Bridger-Teton National Forest is an important part of the global carbon cycle. Clear scientific information reinforces the critical need to conserve all existing stores of carbon in forests to keep it out of the atmosphere. Given that forest policies in other countries and on private lands are politically more difficult to influence, the FS should be taking a leadership role to maintain and increase carbon storage on publicly owned forests, in order to help mitigate climate change effects. It fails to do so.

The FEIS ignores the large body of science on forest management's adverse effects on carbon sequestration. The FEIS's claim that carbon emissions from actions such as the Upper Green River Area Rangeland Project are minimal in the overall context of such things, however the FS avoids the logical step of analyzing and disclosing the cumulative effects of overall agency management contributions to climate change.

The Committee of Scientists, 1999 recognize the importance of forests for their contribution to global climate regulation. Also, the 2012 Planning Rule recognizes, in its definition of *Ecosystem services*, the "Benefits people obtain from ecosystems, including: (2) *Regulating services*, such as long term storage of carbon; climate regulation..."

The FEIS does not analyze or disclose the body of science that implicates livestock grazing as a contributor to reduced carbon stocks and increases in greenhouse gas emissions.

The Idaho Panhandle National Forests plan revision draft EIS defines carbon sequestration: "...the process by which atmospheric carbon dioxide is taken up by vegetation through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils."

The FEIS fails to provide estimates of the total amount of CO₂ or other greenhouse gas emissions caused by FS management actions and policies—BTNF/forestwide, regionally, or nationally. Instead, agency policymakers seem comfortable maintaining a position that they need not take any leadership on this issue, and obfuscate via this FEIS to justify their failures.

The FEIS ignores cumulative CO₂ and other greenhouse gas emissions from common human activities related to forest management and recreational uses. These include emissions associated

⁴ <http://www.350.org/about/science>.

⁵ "To get back to 350 ppm, we'll have to run the whole carbon-spewing machine backwards, sucking carbon out of the atmosphere and storing it somewhere safely. ... By growing more forests, growing more trees, and better managing all our forests, ..." <http://blog.cleanenergy.org/2013/11/26/exploring-biocarbon-tools/comment-page-1/#comment-375371>

with machines used for logging and associated activities, vehicle use for administrative actions, recreational motor vehicles, and emissions associated with livestock grazing. The FS is simply ignoring the climate impacts of these management and other authorized or allowed activities.

Kassar and Spitler, 2008 provide an analysis of the carbon footprint of off-road vehicles in California. They determined:

Off-road vehicles in California currently emit more than 230,000 metric tons — or 5000 million pounds — of carbon dioxide into the atmosphere each year. This is equivalent to the emissions created by burning 500,000 barrels of oil. The 26 million gallons of gasoline consumed by off-road vehicles each year in California is equivalent to the amount of gasoline used by 1.5 million car trips from San Francisco to Los Angeles.

. . . Off-road vehicles emit considerably more pollution than automobiles. According to the California Air Resources Board, off-road motorcycles and all-terrain vehicles produce 118 times as much smog-forming pollutants as do modern automobiles on a per-mile basis.

. . . Emissions from current off-road vehicle use statewide are equivalent to the carbon dioxide emissions from 42,000 passenger vehicles driven for an entire year or the electricity used to power 30,500 homes for one year.

Also, Sylvester, 2014 provides data on the amount of fossil fuel being consumed by snowmobiles in Montana, from which one can calculate the carbon footprint. The study finds that resident snowmobilers burn 3.3 million gallons of gas in their snowmobiles each year and a similar amount of fuel to transport themselves and their snowmobiles to and from their destination. Non-residents annually burn one million gallons of gas in snowmobiles and about twice that in related transportation. So that adds up to 9.6 million gallons of fuel consumed in the pursuit of snowmobiling each year in Montana alone. Multiply that by 20 pounds of carbon dioxide per gallon of gas (diesel pickups spew 22 pounds per gallon) and snowmobiling releases 192 million pounds (96 thousand tons) of climate-warming CO₂ per year into the atmosphere.

The point is, fossil fuel emissions created by motor vehicles can be quantitatively estimated. The Upper Green River Area Rangeland FEIS makes no attempt.

Nitrous oxide, a by-product generated by the microbial breakdown of nitrogen in livestock manure, is a potent greenhouse gas completely ignored by the FEIS. Also, the digestion of organic materials by livestock is a large source of methane emission. Methane is a far more potent substance than CO₂ causing climate change. Beschta et al 2012 review some of the science on livestock exacerbation of climate change:

Livestock production impacts energy and carbon cycles and globally contributes an estimated 18% to the total anthropogenic greenhouse gas (GHG) emissions (Steinfeld and others 2006). How public-land livestock contribute to these effects has received little study. Nevertheless, livestock grazing and trampling can reduce the capacity of rangeland vegetation and soils to sequester carbon and contribute to the loss of above- and below-ground carbon pools (e.g., Lal 2001b; Bowker and others 2012). Lal (2001a) indicated that

heavy grazing over the long-term may have adverse impacts on soil organic carbon content, especially for soils of low inherent fertility. Although Gill (2007) found that grazing over 100 years or longer in subalpine areas on the Wasatch Plateau in central Utah had no significant impacts on total soil carbon, results of the study suggest that “if temperatures warm and summer precipitation increases as is anticipated, [soils in grazed areas] may become net sources of CO₂ to the atmosphere” (Gill 2007, p. 88). Furthermore, limited soil aeration in soils compacted by livestock can stimulate production of methane, and emissions of nitrous oxide under shrub canopies may be twice the levels in nearby grasslands (Asner and others 2004). Both of these are potent GHGs.

Gerber, et al., 2013 state, “Livestock producers, which include meat and dairy farming, account for about 15 percent of greenhouse gas emissions around the world. That’s more than all the world’s exhaust-belching cars, buses, boats, and trains combined.”

Saunio et al., 2016a note “the recent rapid rise in global methane concentrations is predominantly biogenic—most likely from agriculture—with smaller contributions from fossil fuel use and possibly wetlands. ...Methane mitigation offers rapid climate benefits and economic, health and agricultural co-benefits that are highly complementary to CO₂ mitigation.” (Also see Saunio et al., 2016b; Gerber et al., 2013; and the Grist articles “Why isn’t the U.S. counting meat producers’ climate emissions?” and “Cattle grazing is a climate disaster, and you’re paying for it” and Stanford News article “Methane from food production could be wildcard in combating climate change, Stanford scientist says”.)

Ripple et al. 2014 provide some data and point out the opportunities available for greenhouse gas reductions via change in livestock policy:

- At present non-CO₂ greenhouse gases contribute about a third of total anthropogenic CO₂ equivalent (CO₂e) emissions and 35–45% of climate forcing (the change in radiant energy retained by Earth owing to emissions of long-lived greenhouse gases) resulting from those emissions.
- Methane (CH₄) is the most abundant non- CO₂ greenhouse gas and because it has a much shorter atmospheric lifetime (~9 years) than CO₂ it holds the potential for more rapid reductions in radiative forcing than would be possible by controlling emissions of CO₂ alone.
- We focus on ruminants for four reasons. First, ruminant production is the largest source of anthropogenic CH₄ emissions (Fig. 1c) and globally occupies more area than any other land use. Second, the relative neglect of this greenhouse gas source suggests that awareness of its importance is inappropriately low. Third, reductions in ruminant numbers and ruminant meat production would simultaneously benefit global food security, human health and environmental conservation. Finally, with political will, decreases in worldwide ruminant populations could potentially be accomplished quickly and relatively inexpensively.
- Worldwide, the livestock sector is responsible for approximately 14.5% of all anthropogenic greenhouse gas emissions³ (7.1 of 49 Gt CO₂e yr⁻¹). Approximately 44% (3.1 Gt CO₂e yr⁻¹) of the livestock sector’s emissions are in the form of CH₄ from enteric fermentation, manure and rice feed, with the remaining portions almost equally shared between CO₂ (27%, 2 Gt CO₂e yr⁻¹) from land-use change and fossil fuel use,

and nitrous oxide (N₂O) (29%, 2 Gt CO₂e yr⁻¹) from fertilizer applied to feed-crop fields and manure.

- Globally, ruminants contribute 11.6% and cattle 9.4% of all greenhouse gas emissions from anthropogenic sources.
- Lower global ruminant numbers would have simultaneous benefits for other systems and processes. For example, in some grassland and savannah ecosystems, domestic ruminant grazing contributes to land degradation through desertification and reduced soil organic carbon. Ruminant agriculture can also have negative impacts on water quality and availability, hydrology and riparian ecosystems. Ruminant production can erode biodiversity through a wide range of processes such as forest loss and degradation, land-use intensification, exotic plant invasions, soil erosion, persecution of large predators and competition with wildlife for resources.
- Roughly one in eight people in the world are severely malnourished or lack access to food owing to poverty and high food prices. With over 800 million people chronically hungry, we argue that the use of highly productive croplands to produce animal feed is questionable on moral grounds because this contributes to exhausting the world's food supply.
- In developed countries, high levels of meat consumption rates are strongly correlated with rates of diseases such as obesity, diabetes, some common cancers and heart disease. Moreover, reducing meat consumption and increasing the proportion of dietary protein obtained from high-protein plant foods — such as soy, pulses, cereals and tubers — is associated with significant human health benefits.
- The greenhouse gas footprint of consuming ruminant meat is, on average, 19–48 times higher than that of high-protein foods obtained from plants (Fig. 2), when full life cycle analysis including both direct and indirect environmental effects from 'farm to fork' for enteric fermentation, manure, feed, fertilizer, processing, transportation and land-use change are considered.
- In terms of short-term climate change mitigation during the next few decades, if all the land used for ruminant livestock production were instead converted to grow natural vegetation, increased CO₂ sequestration on the order of 30–470% of the greenhouse gas emissions associated with food production could be expected.
- (D)ecreasing ruminants should be considered alongside our grand challenge of significantly reducing the world's reliance on fossil fuel combustion. Only with the recognition of the urgency of this issue and the political will to commit resources to comprehensively mitigate both CO₂ and non- CO₂ greenhouse gas emissions will meaningful progress be made on climate change. For an effective and rapid response, we need to increase awareness among the public and policymakers that what we choose to eat has important consequences for climate change.

The FEIS fails to consider best available scientific information on climate change as it relates directly, indirectly, and cumulatively to the Upper Green River Area Rangeland Project, in violation of NEPA.

Remedy: Conduct a National Forest System-wide analysis of management activities on greenhouse gas emissions and carbon sequestration processes on national forests and national

grasslands. Prepare a Supplemental EIS to address the legal and analytical deficiencies identified above. Prohibit livestock grazing in these allotments in the meantime.

VI. ECONOMICS

Y2U and AWR raised the economics issue at pp. 2 and 9 of our comments. We made the point that the FS “makes the claim that grazing these allotments is economically important to the local economy and supports local custom and culture but does not analyze the real costs and benefits.” We quoted an economist: “Claims about the relative importance of federal grazing to the economies of the western states can be simply analyzed by answering the following four questions” but the FS refused to consider the economics from the wider perspective of the landowners here—the U.S. taxpayers.

Our comments also presented numbers regarding the economic values of wildlife and other natural amenity values. As recognized in the Forest Plan, “Outfitting and private hunting opportunities play a major role in the economic structure and historic-use patterns of the National Forest” and “Locally, the streams and rivers of these watersheds support a wide variety of recreational pursuits and contribute substantially to the tourism economy.” Still, the FS refused to widen its perspective and attempt to quantify anything beyond its narrow local focus.

The Forest Plan defines “Economic Efficiency” as:

The calculation of the relative economic value of alternative sets of conditions or outputs (benefits), and of alternative methods (costs) for achieving given sets of conditions or outputs (benefits). Economic efficiency is usually measured using present net value, benefit-cost ratios, or rate-of-return. Economic efficiency analysis includes evaluation of the relative merits of different outputs or conditions. In cost efficiency analysis, the conditions or outputs (benefits) are set at a specified level and alternative means of achieving that specified level (costs) are evaluated.

The FEIS fails to provide a valid and comprehensive measure of economic efficiency of the allotment management.

Remedy: Prepare a Supplemental EIS to address the analytical deficiencies identified above.

VII. FOREST RESILIENCY, BIODIVERSITY, HABITAT CONNECTIVITY, AND SPECIES OF CONCERN

Y2U and AWR raised issues of forest resiliency, biodiversity at various geographic and population scales, grazing impacts on plant communities, soil, and Sensitive and other native species at pp. 1-3 and 5 of our comments. Natural diversity, including its myriad ecological relationships that are impacted by livestock grazing, is discussed in our comment letter where we mention some of the ecological factors the FS has not adequately addressed: “...the effects of livestock on forest health, including aspen and conifer forests in regard to accelerating succession of aspen and increasing the fire hazard in conifer forests. Livestock grazing plays a

key role in removing the herbaceous vegetation from the forest floor and disturbing the soil resulting in accelerated establishment of conifer seedlings.”

This issue is also important from the perspective of ongoing climate change, which as we discuss above, the FEIS ignores. Pecl, et al. 2017 conclude:

The breadth and complexity of the issues associated with the global redistribution of species driven by changing climate are creating profound challenges, with species movements already affecting societies and regional economies from the tropics to polar regions. Despite mounting evidence for these impacts, current global goals, policies, and international agreements do not sufficiently consider species range shifts in their formulation or targets. Enhanced awareness, supported by appropriate governance, will provide the best chance of minimizing negative consequences while maximizing opportunities arising from species movements—movements that, with or without effective emission reduction, will continue for the foreseeable future, owing to the inertia in the climate system.

The Forest Plan makes these commitments:

Habitat monitoring strategies will be developed for each habitat. **Riparian and old-growth forest habitats will be monitored** primarily by **monitoring population trends** for their respective guilds and by tracking trends in habitat health and diversity by total acres, amount of each seral stage, condition, and age class. The other four habitat types **will be monitored** by tracking trends in habitat health and diversity. (Emphases added.)

The Forest Plan makes additional monitoring commitments, including these quite relevant to understanding the impacts of livestock grazing:

- Effectiveness monitoring of vegetative manipulation, and the maintenance of critical habitat components such as cover, aspen, old-growth, and security necessary to meet the population objectives identified in the DFCL and Management Policy - Priority 1
- Validation and effectiveness monitoring of Kendall Warm Springs dace populations and associated stream and riparian areas - Priority 1
- Validation monitoring of Colorado cutthroat trout populations - Priority 2.
- Validation and effectiveness monitoring of ecological management indicator species - Priority 2.
- Validation monitoring of Sensitive plant species - Priority 2
- Validation monitoring of Sensitive wildlife species - Priority 2.
- Validation monitoring of livestock depredation losses - Priority 2.
- Validation monitoring of big game Management Indicator Species (MIS) - Priority 3.
- Effectiveness monitoring of maintenance of aspen - Priority 3

The Forest Plan also contains a Bighorn Sheep Monitoring Protocol, a Boreal Toad and Boreal Chorus Frog Monitoring Protocol, and an Aspen Monitoring Protocol.

The FEIS fails to analyze and disclose the results of the agency's evaluations following the carrying out of these commitments (allowing the benefit of the doubt) or the implications of the FS **not** meeting these monitoring obligations.

The FEIS also fails to consider best available scientific information on these issues as they relate directly, indirectly, and cumulatively to the Upper Green River Area Rangeland Project, in violation of NEPA.

Remedy: Prepare a Supplemental EIS to address the analytical deficiencies identified above.

VIII. FOREST PLAN MONITORING

This section of the Objection is incorporated into each of the other sections.

The Forest Plan states, "Monitoring and evaluation are the management control systems for the Forest Plan. They provide the decision maker and the public information on the progress and results of implementing the Forest Plan."

From the Forest Plan:

Goals of Monitoring: The goals for monitoring and evaluating the Forest Plan are to determine:

- If the Bridger-Teton National Forest is meeting its planned goals and objectives;
- If existing and emerging public issues and management concerns are being adequately addressed;
- If the Forest Plan's management directions are being followed;
- If the effects of implementing the Forest Plan are occurring as predicted;
- If the costs of implementing the Forest Plan are as predicted;
- If Forest Plan implementation effects on the land, resources, and communities adjacent to or near the Bridger-Teton National Forest significantly different than predicted;
- If activities on nearby lands managed by other federal agencies, or under the jurisdiction of local governments, are affecting management of the Bridger-Teton National Forest are significantly different than predicted
- If research is needed to support the management of the Bridger-Teton National Forest, beyond that identified in Chapter 2 of the Forest Plan; and
- If there is a need to correct, amend, or revise the Forest Plan.

Evaluation of data gathered during the monitoring process will be guided by the direction shown in the Monitoring Plan. As indicated, the results of this evaluation lead to decisions on further action of the following types:

- Referring the problem to the appropriate line officer for improvement of the application of the management practice
- Modifying the management practice as a Forest Plan amendment, Revising the cost unit of output, and Initiating revision of the Forest Plan.

The document resulting from the evaluation of data constitutes the evaluation report. As applicable, the following will be included in each evaluation report:

- A quantitative comparison of outputs, costs, and services with those projected by the Forest Plan
- Documentation of any change in productivity of the land
- Unit costs associated with implementing planned activities as compared with unit costs estimated during Forest Plan development
- Recommendations for changes
- A list of needs for continuing evaluation of the Forest Plan and for alternative methods of management

In browsing on the BTNF webpages, we find no Forest Plan Monitoring and Evaluation Reports whatsoever.

IX. SCIENTIFIC INTEGRITY

This section of the Objection is incorporated into each of the other sections.

Please consider the following as best available science on evaluating, assuring, applying, and determining best available science, reliability and accuracy of data, and validity of analysis methodology, modeling, and conservation measures: Ruggiero (2007), Sullivan et al. (2006), Committee of Scientists (1999), Huck (2000), Beck and Suring (2011), Larson et al. (2011), Guldin et al. 2003, Verbyla and Litaitis (1989), USDA-Objectivity of Statistical and Financial Information, USDA-Objectivity of Regulatory Information and USDA-Objectivity of Scientific Research Information.

X. RANGE OF ALTERNATIVES

Y2U and AWR raised this issue at p. 11 of our comments: “None of the alternatives that continue grazing reduced stocking rates... The analysis above shows that ...grazing management include long term rest for recover(y)... This failure of analysis also is a failure to evaluate adequate alternatives.”

We note the FEIS’s expressed purpose of the project is to “to authorize livestock grazing in a manner that will maintain or improve resource conditions.” Elsewhere the FEIS identifies needs to improve conditions. Including as part of the purpose “to authorize livestock grazing” creates the ultimate barrier against selecting the No Livestock Grazing alternative. The FEIS also incorrectly identifies the No Livestock Grazing alternative as the “No Action Alternative” when in fact Alternative 2 (“Grazing as Currently Permitted and Current Management”) is the alternative which would be implemented if the FS makes no decision on this project.

The section of this Objection entitled “Grazing Management and Overutilization” presents plenty of valid rationale for considering such features as reduced stocking rates and yearlong resting of

allotments in a grazing alternative. The failure to do so violates NEPA's requirements that a reasonable range of alternatives be analyzed in an EIS.

Remedy: Prepare a Supplemental EIS to fully include a wider range of alternatives as we explain above, and prohibit livestock grazing in these allotments in the meantime.

XI. SOIL PRODUCTIVITY

Y2U and AWR raised the soil issue at pp. 4, 5, 6, and 9 of our comments.

The Intermountain Region's soil protection policies, standards, guidelines, and monitoring measures are located in the Forest Service Manual at FSM 2500 – Watershed and Air Management Chapter 2550 – Soil Management Supplement No. 2500-2011-1, Effective March 14, 2011. The FEIS fails to demonstrate consistency with those policies, standards, guidelines, and monitoring measures.

It is clear that the intent of the Regional Standards is that the FS must, for project analysis purposes, consider the cumulative effects of both past and proposed soil disturbances to assure the desired soil conditions are met.

There is no indication that the soil surveys cited by the FS utilized proper and statistically sound sampling techniques so that reliable and accurate estimates of current and predicted detrimental soil disturbances could be presented in the FEIS.

There is also no discussion on how soil disturbance estimates correlate with irreversible loss of soil productivity or losses of any duration in soil productivity, which is what NFMA requires the FS to avoid.

The FEIS fails to accurately disclose the amount of detrimental soil damage that has been caused by livestock grazing and other management activities in the project area, in violation of NFMA and NEPA. Cumulative impacts were not properly analyzed, in violation of NEPA.

The FEIS failed to consider the best available science regarding soil impacts and soil productivity, in violation of NEPA.

The Forest Plan requires "Validation monitoring of soil and watershed impacts such as compaction, revegetation, and erosion control" and again, there's no indication in the FEIS that the agency is informed by this "required" monitoring.

Remedy: Prepare a Supplemental EIS to address the legal and analytical deficiencies identified above, and prohibit livestock grazing in these allotments in the meantime.

Objection respectfully submitted:



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